

The Commonwealth of Massachusetts  
Executive Office of Health and Human Services  
Department of Public Health  
**William A. Hinton State Laboratory Institute**  
305 South Street, Jamaica Plain, MA 02130

DEVAL L. PATRICK  
GOVERNOR

TIMOTHY P. MURRAY  
LIEUTENANT GOVERNOR

JUDYANN BIGBY, MD  
SECRETARY

JOHN AUERBACH  
COMMISSIONER

Kevin Santos, ADA

Suffolk County District Attorney's Office  
Dorchester Court  
By e-mail

April 18, 2011

Re: Comm. v. [REDACTED] State Lab no. [REDACTED]

ADA Santos,

Please find enclosed a discovery packet for the case noted above. The material is collated in the following manner:

- 1) the chemist's c.v.'s
- 2) the drug receipt to the Boston Police
- 3) inventory control card for the submission
- 4) the bench notes on the "Pharmaceutical Analysis Sheet"
- 5) the text reference from the pharmacopeia
- 6) the gas chromatography/mass spectrometry (gc/ms) data

I was the custodial chemist for the submission, accountable for the integrity of the sample, the weight determination and the preliminary analysis. Kate Corbett was the confirmatory chemist with the instrumental analysis on gc/ms.

If you need further clarification of this material, please call me directly at (617) 983-6627.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Lawler".  
Michael Lawler  
Senior Chemist

Cc: Charles Salemi, Kate Corbett

## Curriculum Vitae

Michael Lawler

### **Education:**

University of Virginia, Charlottesville, Va. Bachelor of Arts in English, 1975

Harvard University, Cambridge, Ma. Master of Arts in biology, 1995

### **Experience:**

1990-present currently Chemist III, Mass. Dept. of Public Health, Drug Lab analyst determining the identity of unknown substances and providing expert testimony in the Courts. Conduct special testing for poisons within drug exhibits. Lab Safety Officer.

2005-2008 lecturer in chemistry, Curry College, Milton, Ma.

1988-1990 New England Newborn Screening (NENS) Biochemist conducting pilot studies and validation trials of new newborn screening tests. Investigator and co-author of papers noted below. Introduced screening test for Biotinidase Deficiency. Liaison with interstate collaborators in national studies.

1983-1988 Supervised NENS urine screening lab for metabolic disorders. Conducted research in collaboration with Children's Hospital (Boston) detecting neuroblastoma, a cancer of early childhood. Conducted reference testing for rare metabolic disorders for an international audience.

1982-1983 NENS hypothyroid assay technologist with Tuft's University

1979-1981 Mass. Bay Community College, staff technologist preparing materials for the laboratory technician program, which included reagents, apparatus and maintaining stock cultures of human pathogens.

### **Additional education and special training**

Drug Analysis, completed six week training course by senior staff within the Department of Public Health Drug Analysis Laboratory

National Laboratory Network Training Program course as Expert Witness

Qualified as an expert witness in the Massachusetts Courts and the U.S. District Court  
Current Drug Trends – Multijurisdictional Drug Task Force Academy

CDC course in antibiotic resistance CDC course in cell culture

CDC course in public health response to bioterrorism

U.S. Army course in biologic warfare and terrorism

### **Journal Publications**

Screening, 1992, 1:34-37; Lawler,M., Frederick,S., Rodriguez-Anza, S., Wolf,B., Levy,H., *Newborn Screening for Biotinidase Deficiency, Pilot Study and Follow-up of Identified Cases*

Genetic Screening, 1990, 11-18, Mitchell,M., Lawler,M., Walraven,C., Hermos,R., *To Screen or Not to Screen for Congenital Hyperplasia: Is that the Question?*

The Journal of Pediatrics, 116: 78-83, Secor-McVoy,J., Lawler,M., Schmidt, M., Ebers,D., Hart,P., Pettit,D., Blitzer,M., Wolf,B., *Partial Biotinidase Deficiency: Clinical and Biochemical Features*

### **Professional Affiliations**

Northeastern Association of Forensic Scientists (NEAFS) since 2005

### **Awards**

Theobald Smith Education Grant for graduate studies

# Curriculum Vitae

Kate A. Corbett

## Education

Bachelor of Science Degree, CHEMISTRY May 2003

MERRIMACK COLLEGE

Coursework included: Organic Chemistry, Inorganic Chemistry, Quantitative Analysis, Instrumental Analysis, Physical Chemistry, Physics, Calculus

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## Employment

Chemist II State Laboratory Institute (March 2008-Present)

Massachusetts Department of Public Health

Drug Analysis Laboratory

- Responsible for the identification of substance and trafficking substances to determine violation of the Massachusetts drug laws
- Responsible for the identification of pharmaceuticals to determine violation of the Massachusetts drug laws
- Operate analytical instrumentation, microscopes and balances for forensic drug analysis

Chemist I State Laboratory Institute (2005-March 2008)

Massachusetts Department of Public Health

Drug Analysis Laboratory

- Responsible for the identification of substance to determine violation of the Massachusetts drug laws
- Operate analytical instrumentation for the purpose of performing forensic drug analysis
- Successfully completed an eight week training course in the analysis of drugs conducted by senior staff of the Department of Public Health, Drug Analysis Laboratory
- Appointed an assistant analyst for the Department of Public Health, Drug Analysis Laboratory in 2005

Research Associate (September 2003 - August 2005)

SENSOR TECHNOLOGIES, INC. - Shrewsbury, MA

- Prepared chemistries used in making sensor beads
- Generated and examined sensors employing fluorescence spectroscopy
- Performed protein, dye, and sugar assays using UV/VIS spectrophotometry
- Carried out titrations on ricin using fluorescence correlation spectroscopy
- Statistical analysis of experimental data

Intern (March 2003 - August 2003)

MASSACHUSETTS STATE POLICE CRIME LABORATORY - Sudbury, MA

- Assisted in the gathering of case files to fulfill the National Institute of Justice's No Suspect Backlog Reduction Grant
- Observed in the Evidence, Criminalistics, DNA, Drug, Trace, Toxicology, and Bomb/Arson Units



## **DRUG RECEIPT**

CC #

**BOOK #** 72

PAGE # 60

**DESTRUCTION #**

District/Unit B-3/C(01)

Name & Rank of Arresting Officer P.O. Courtney / P.O. S.F. Peters ID# 75578 (d08891)

**To be completed by ECU personnel only**

**Name and Rank of Submitting Officer**

ID# 9370

Received by

Date 11-19-10

ECU Control #

No. [REDACTED]

Date Analyzed: 2/10/11

City: Boston D.C.U. Police Dept.

Officer: P.O. Diana Lopez

Def: [REDACTED]

Amount: 4.0

Subst: TAB

No. Cont: 1 Cont: pb

Date Rec'd: 11/19/2010

No. Analyzed: 1

Gross Wt.: 4.33

Net Weight: 0.60

# Tests: 2

11-17 Prelim: morphine blue Findings: Morphine



6CM8D  
DO20911-S

11-17

## Pharmaceutical Analysis Sheet

Sample #

Count

4

Description:

Ballistic I.D. MorphineI.D. Source MICROMEDEXFinal I.D. Morphine

MS chemist

KAC

completed

2-10-11

Boston Dan

E.O. weight

4.33

net = 0.6085



blue

0.5 tb

NaOH

g/m<sup>2</sup> (1)

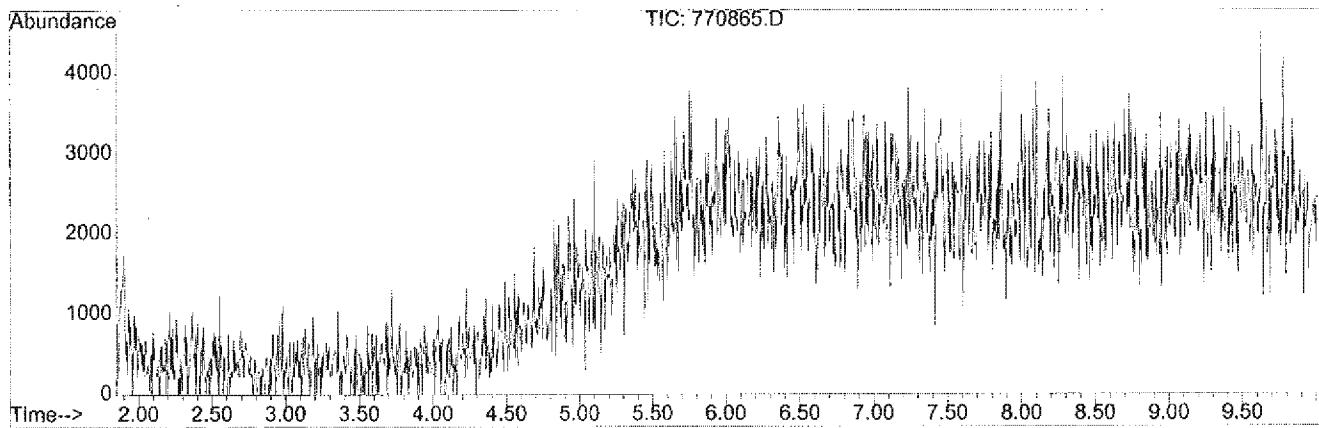
**POISINDEX® Product List****Morphine Sulfate****Regulatory-Status:** Schedule II**Ingredients****Active-Ingredient:** Morphine Sulfate - 15 MG**Excipients:**  
Polydextrose  
Silicon Dioxide  
Titanium Dioxide  
Triacetin  
hydroxypropyl methylcellulose  
lactose monohydrate  
Magnesium Stearate  
Polyethylene Glycol**Availability & Manufacturing****Availability:** United States**Available-Container-Sizes:** Ten 2 x 5 Blister Cards; Bottle of 100; Bottle of 500**Contact:** Covidien Mallinckrodt**Product ID:** 6464500**AAPCC Code:** 037704 - Morphine**Registry Numbers:**  
NDC 0406-8315-62  
NDC 0406-8315-01  
NDC 0406-8315-05**Physical Description****Imprints:** M - The M enclosed in a box is imprinted on one side and 15 on the reverse side.  
15**Alt Imprints:** M15 - The M enclosed in a box is imprinted on one side and 15 on the reverse side.  
M 15**Form:** Oral Tablet, Extended Release**Color:** Blue**Shape:** Circle

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*5/18/11 VML*

## Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770865.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 00:48  
Sample Name : BLANK  
Submitted by :  
Vial Number : 2  
AcquisitionMeth: WDRUGS  
Integrator : RTE



| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

\*\*\*NO INTEGRATED PEAKS\*\*\*

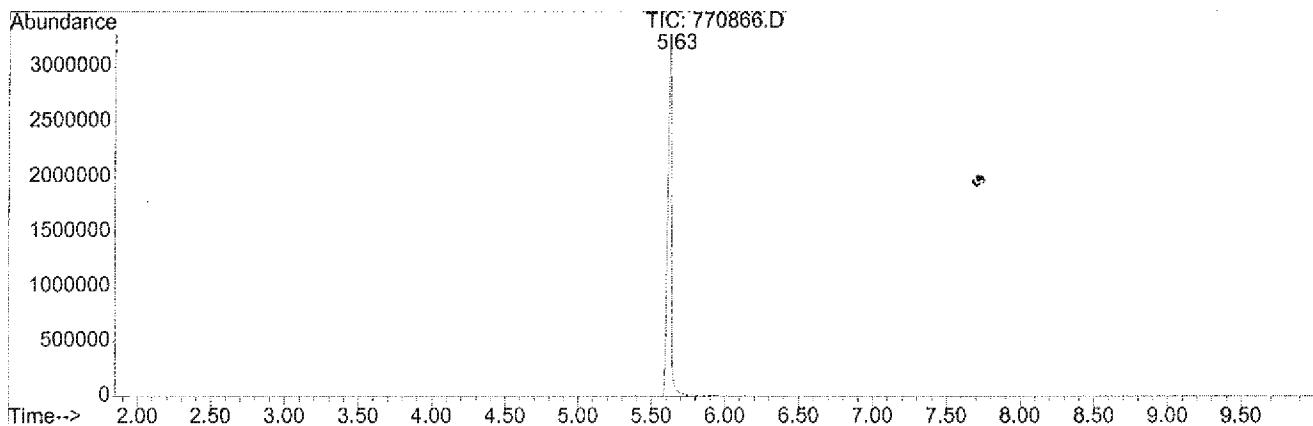
# Area Percent / Library Search Report

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Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770866.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:02  
Sample Name : MORPHINE STD  
Submitted by :  
Vial Number : 66  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area    | Area % | Ratio % |
|-----------|---------|--------|---------|
| 5.627     | 5733902 | 100.00 | 100.00  |

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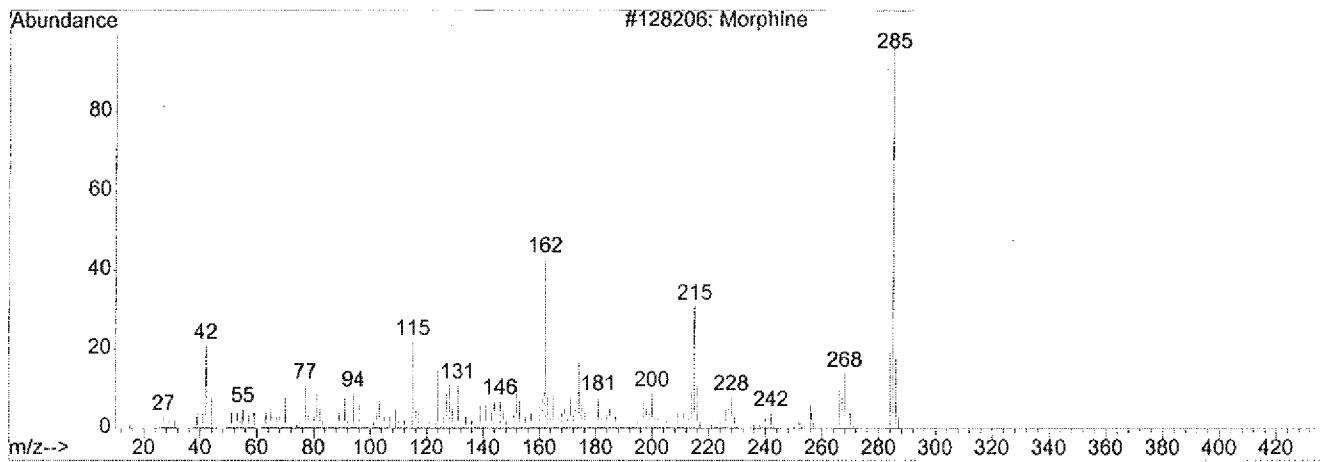
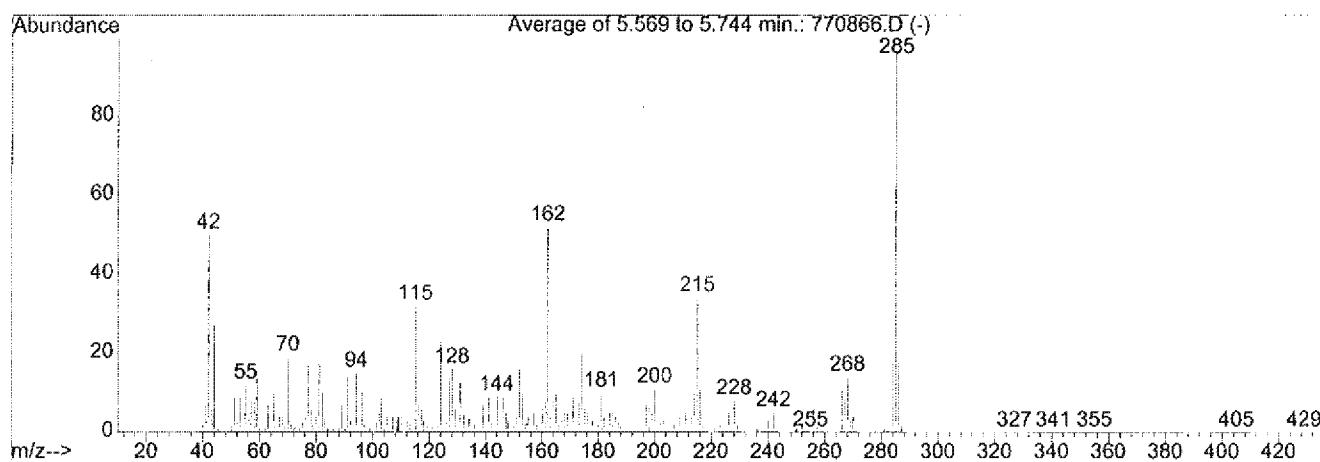
# Area Percent / Library Search Report

**Information from Data File:**

File Name : D:\SYSTEM4\02\_09\_11\770866.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:02  
Sample Name : MORPHINE STD  
Submitted by :  
Vial Number : 66  
AcquisitionMeth: WDRUGS  
Integrator : RTE

Search Libraries: C:\DATABASE\SLI.L Minimum Quality: 90  
C:\DATABASE\PMW\_TOX2.L Minimum Quality: 90  
C:\DATABASE\NIST98.L

| PK# | RT   | Library/ID           | CAS#        | Qual |
|-----|------|----------------------|-------------|------|
| 1   | 5.63 | C:\DATABASE\NIST98.L |             |      |
|     |      | Morphine             | 000057-27-2 | 99   |
|     |      | Morphine             | 000057-27-2 | 99   |
|     |      | Morphine             | 000057-27-2 | 99   |



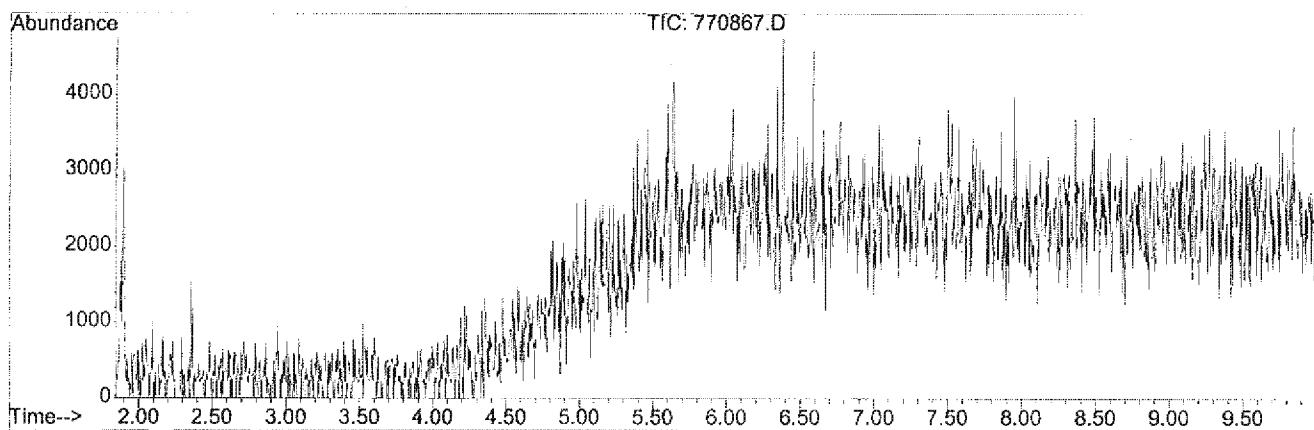
Area Percent / Library Search Report

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File Name : D:\SYSTEM4\02\_09\_11\770867.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:16  
Sample Name : BLANK  
Submitted by :  
Vial Number : 2  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

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\*\*\*NO INTEGRATED PEAKS\*\*\*

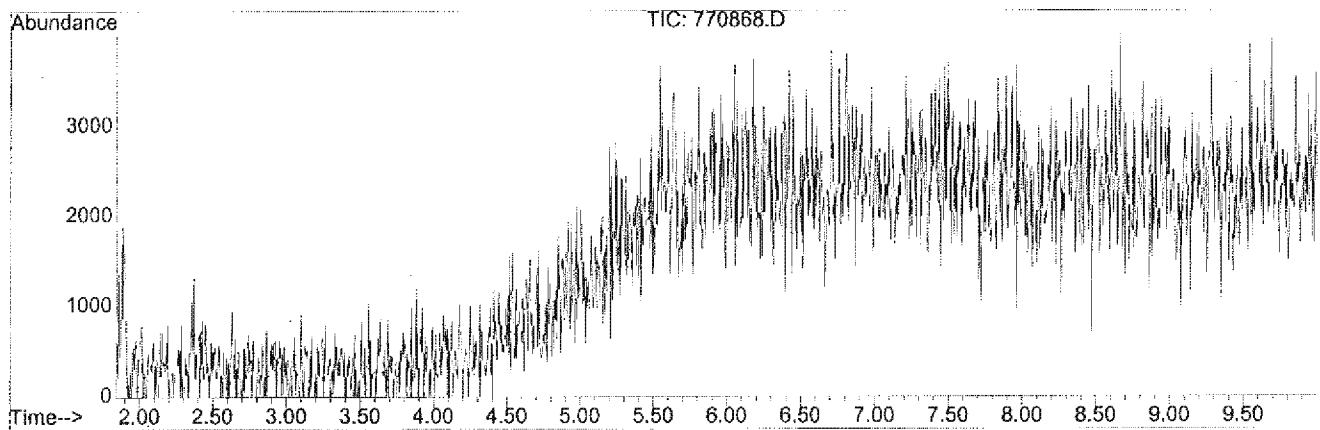
# Area Percent / Library Search Report

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**Information from Data File:**

File Name : D:\SYSTEM4\02\_09\_11\770868.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:30  
Sample Name : BLANK  
Submitted by : MGL  
Vial Number : 2  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

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\*\*\*NO INTEGRATED PEAKS\*\*\*

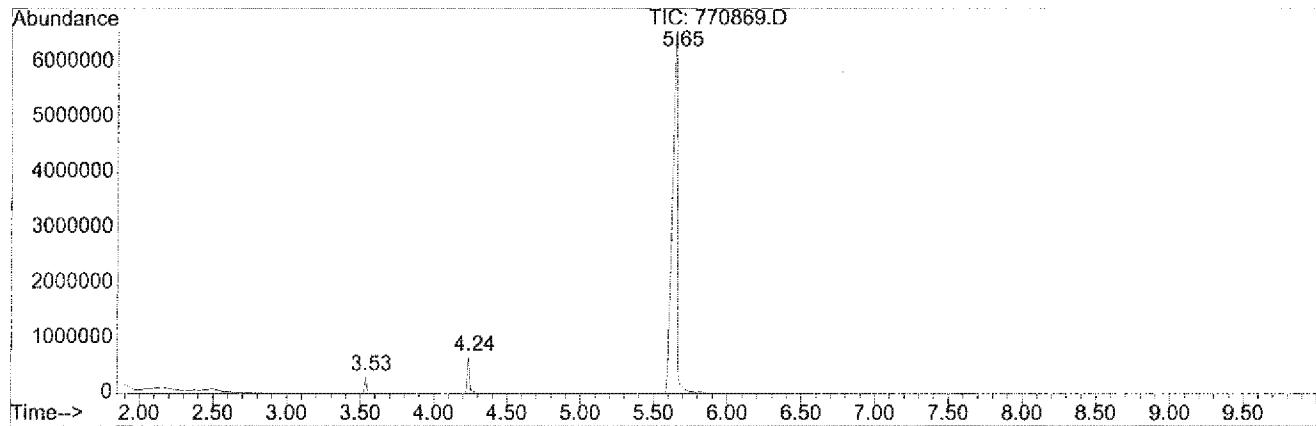
# Area Percent / Library Search Report

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Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770869.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:44  
Sample Name : XXXXXXXXXX  
Submitted by : MGL  
Vial Number : 69  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area     | Area % | Ratio % |
|-----------|----------|--------|---------|
| 3.534     | 336637   | 1.95   | 2.09    |
| 4.237     | 796729   | 4.62   | 4.94    |
| 5.649     | 16116987 | 93.43  | 100.00  |

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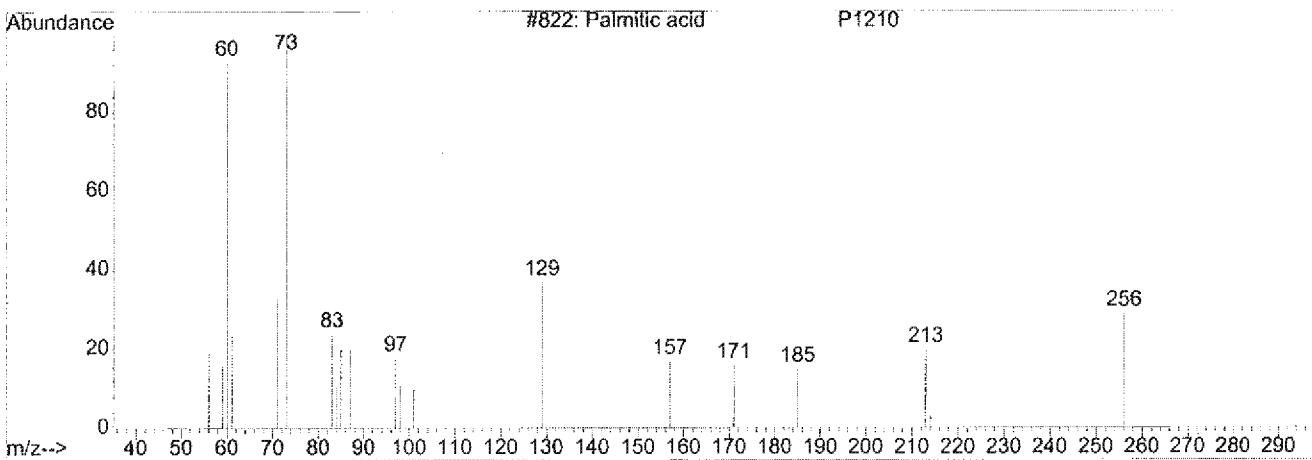
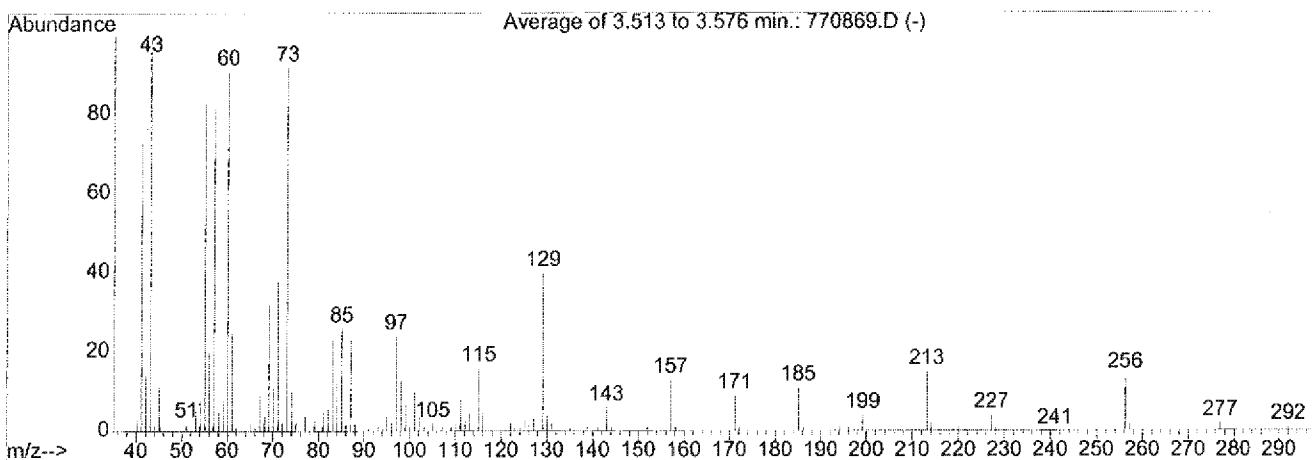
## Area Percent / Library Search Report

## Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770869.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:44  
Sample Name [REDACTED]  
Submitted by : MGL  
Vial Number : 69  
AcquisitionMeth: WDRUGS  
Integrator : RTE

Search Libraries: C:\DATABASE\SLI.L Minimum Quality: 90  
C:\DATABASE\PMW\_TOX2.L Minimum Quality: 90  
C:\DATABASE\NIST98.L

| PK# | RT   | Library/ID                   | CAS#        | Qual |
|-----|------|------------------------------|-------------|------|
| 1   | 3.53 | C:\DATABASE\PMW_TOX2.L       |             |      |
|     |      | Palmitic acid                | 000057-10-3 | 94   |
|     |      | Myristic acid                | 000544-63-8 | 64   |
|     |      | Diethylene glycol dipivalate | 000000-00-0 | 4    |



# Area Percent / Library Search Report

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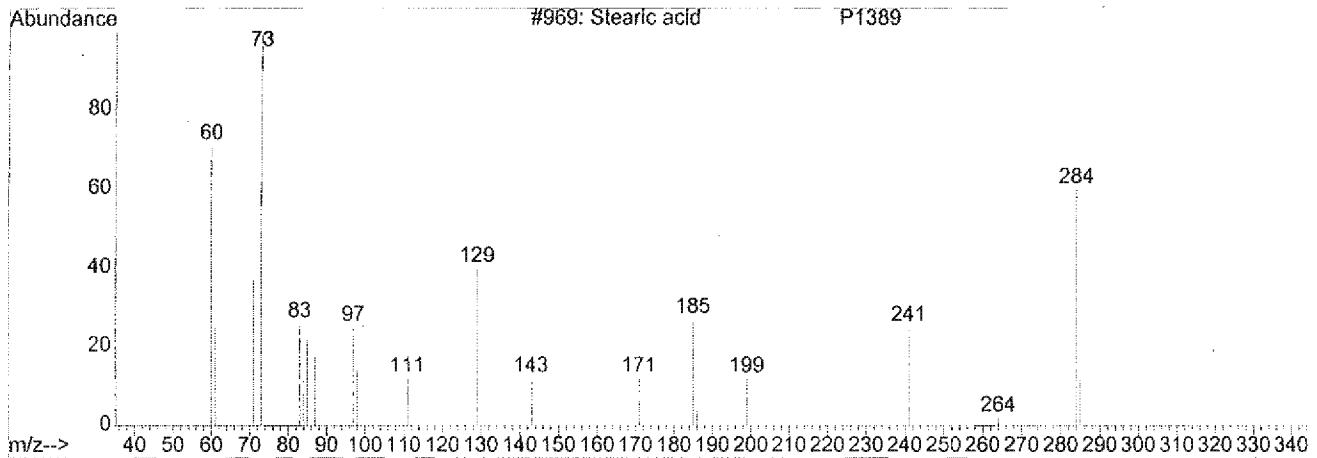
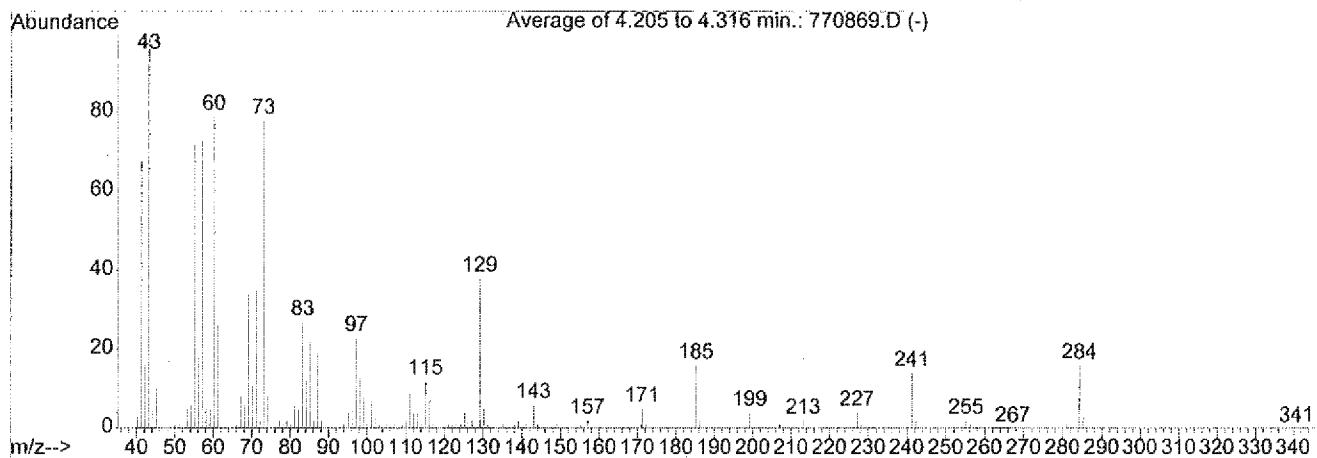
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Operator : SLD  
Date Acquired : 10 Feb 2011 1:44  
Sample Name : XXXXXXXXXX  
Submitted by : MGL  
Vial Number : 69  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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Search Libraries: C:\DATABASE\SLI.L Minimum Quality: 90  
C:\DATABASE\PMW\_TOX2.L Minimum Quality: 90  
C:\DATABASE\NIST98.L

| PK# | RT   | Library/ID             | CAS#        | Qual |
|-----|------|------------------------|-------------|------|
| 2   | 4.24 | C:\DATABASE\PMW_TOX2.L |             |      |
|     |      | Stearic acid           | 000057-11-4 | 92   |
|     |      | Myristic acid          | 000544-63-8 | 68   |
|     |      | Acetic acid            | 000064-19-7 | 5    |



# Area Percent / Library Search Report

**Information from Data File:**

File Name : D:\SYSTEM4\02\_09\_11\770869.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 1:44  
Sample Name : XXXXXXXXXX  
Submitted by : MGL  
Vial Number : 69  
AcquisitionMeth: WDRUGS  
Integrator : RTE

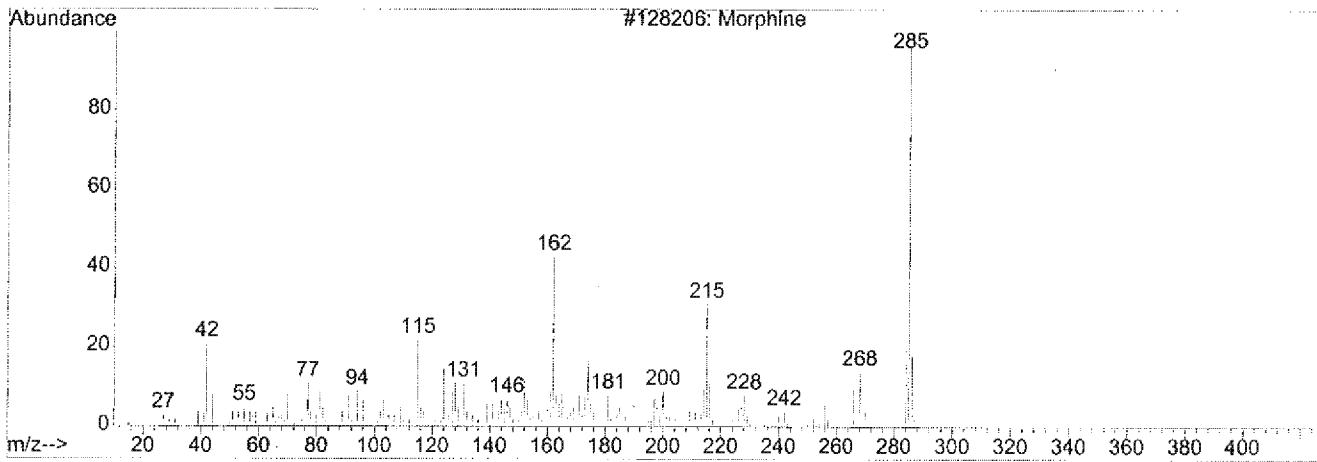
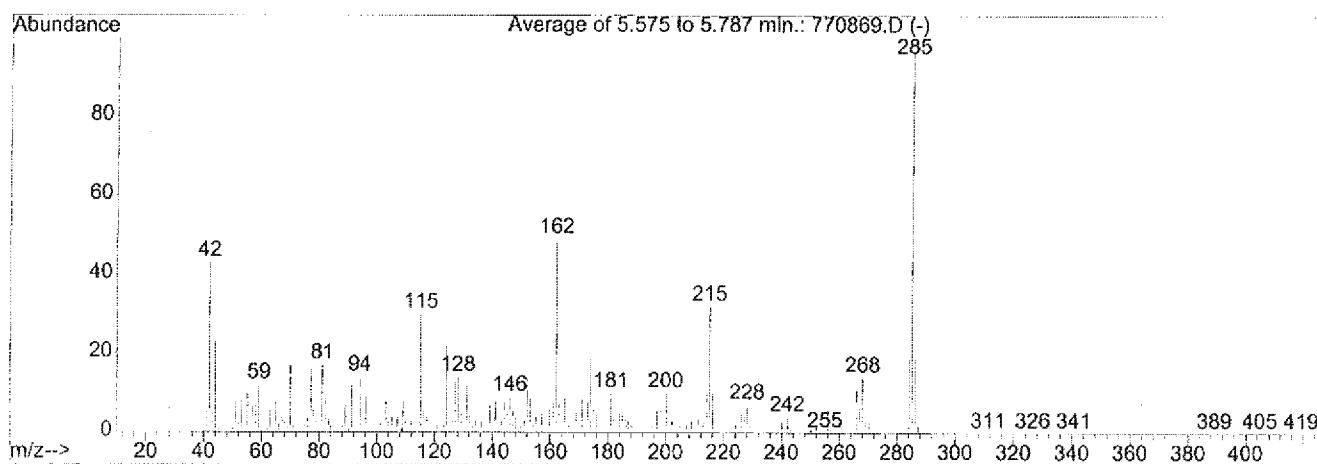
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Search Libraries: C:\DATABASE\SLI.L Minimum Quality: 90  
C:\DATABASE\PMW\_TOX2.L Minimum Quality: 90  
C:\DATABASE\NIST98.L

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| PK# | RT   | Library/ID           | CAS#        | Qual |
|-----|------|----------------------|-------------|------|
| 3   | 5.65 | C:\DATABASE\NIST98.L |             |      |
|     |      | Morphine             | 000057-27-2 | 99   |
|     |      | Morphine             | 000057-27-2 | 99   |
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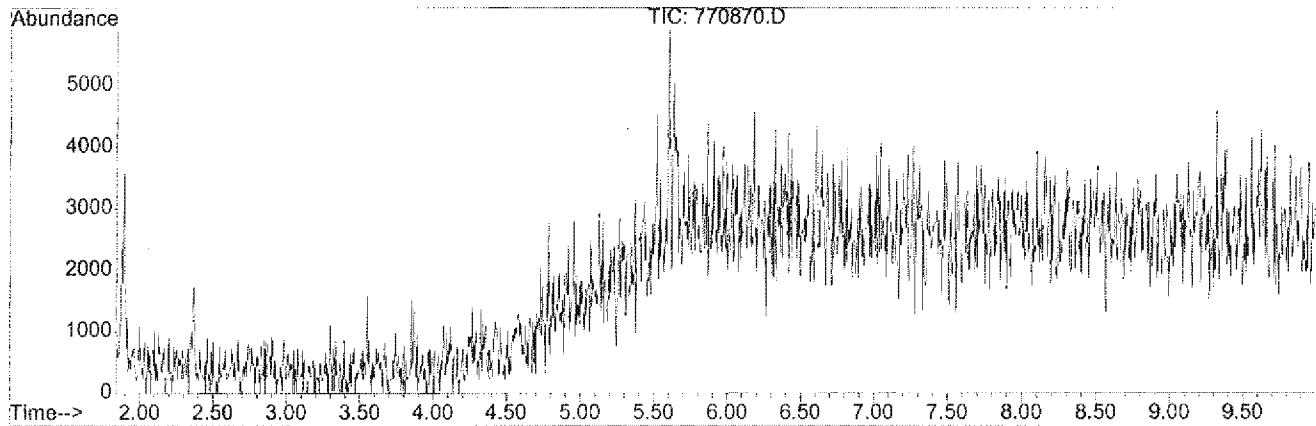
# Area Percent / Library Search Report

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Operator : SLD  
Date Acquired : 10 Feb 2011 1:57  
Sample Name : BLANK  
Submitted by : MGL  
Vial Number : 2  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

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\*\*\*NO INTEGRATED PEAKS\*\*\*

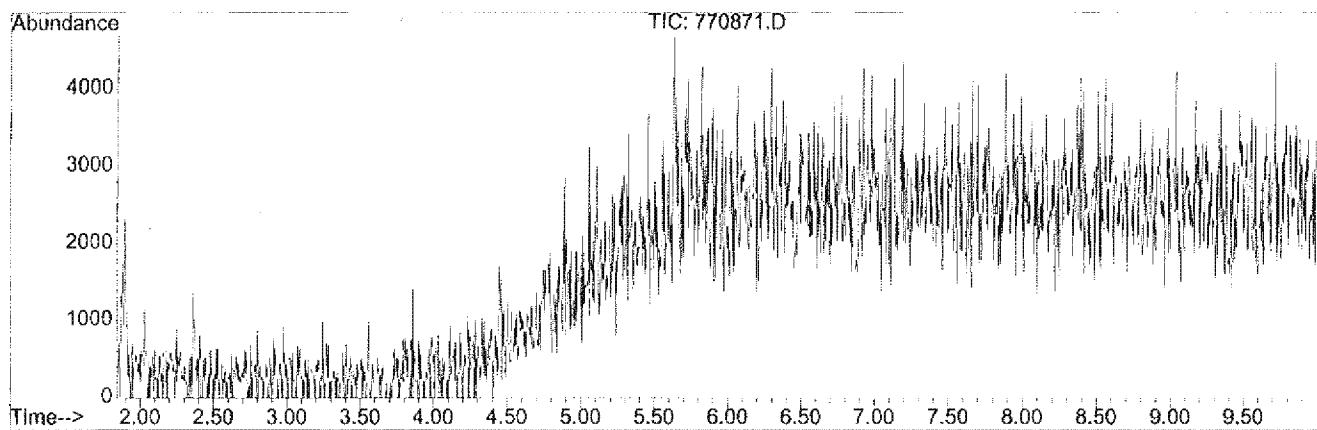
Area Percent / Library Search Report

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Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770871.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 2:11  
Sample Name : BLANK  
Submitted by :  
Vial Number : 2  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

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\*\*\*NO INTEGRATED PEAKS\*\*\*

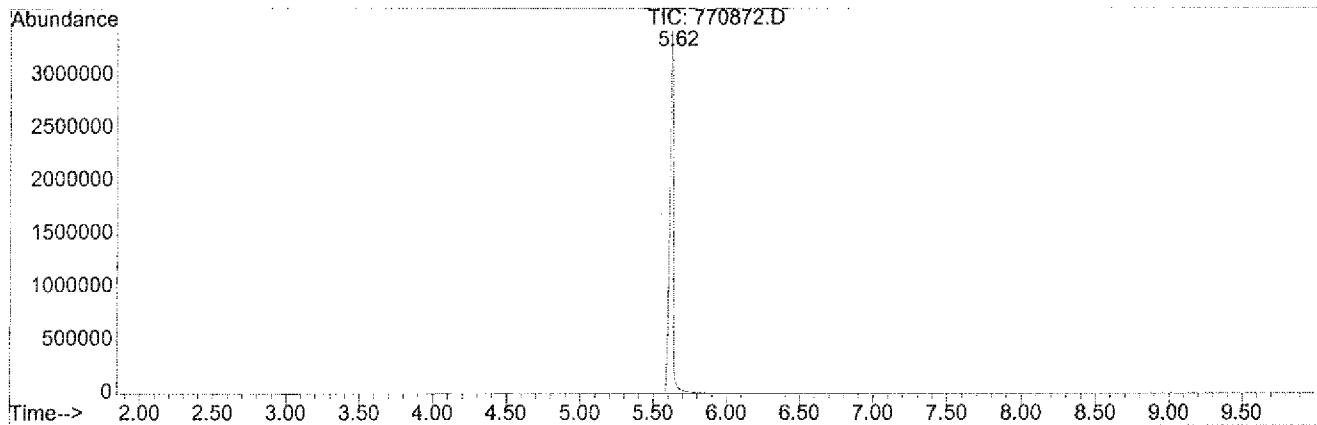
# Area Percent / Library Search Report

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Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770872.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 2:25  
Sample Name : MORPHINE STD  
Submitted by :  
Vial Number : 66  
AcquisitionMeth: WDRUGS  
Integrator : RTE

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| Ret. Time | Area    | Area % | Ratio % |
|-----------|---------|--------|---------|
| 5.620     | 5665300 | 100.00 | 100.00  |

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# Area Percent / Library Search Report

Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770872.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 2:25  
Sample Name : MORPHINE STD  
Submitted by :  
Vial Number : 66  
AcquisitionMeth: WDRUGS  
Integrator : RTE

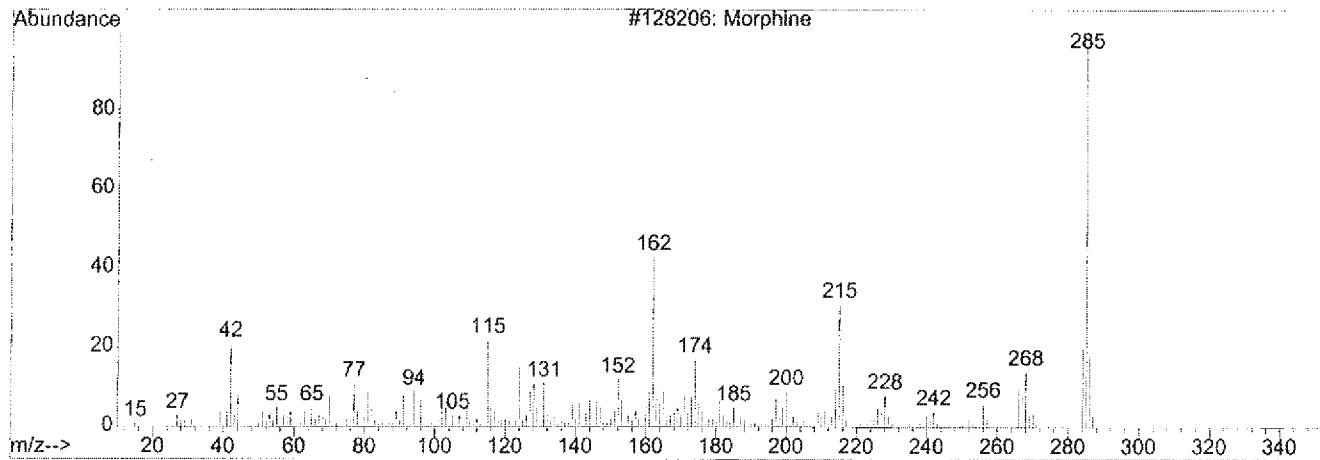
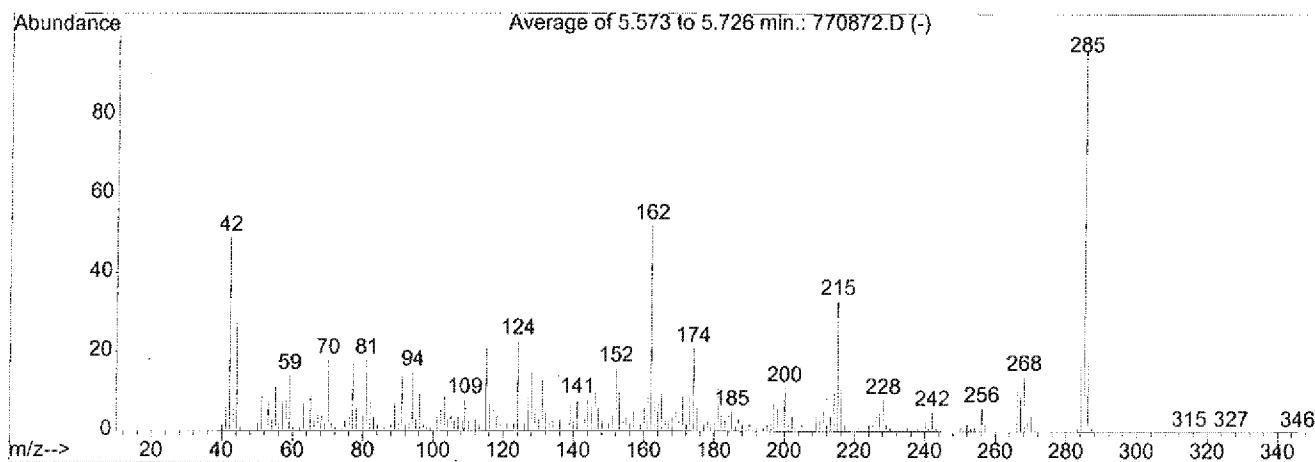
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Search Libraries: C:\DATABASE\SLI.L Minimum Quality: 90  
C:\DATABASE\PMW\_TOX2.L Minimum Quality: 90  
C:\DATABASE\NIST98.L

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| PK# | RT   | Library/ID           | CAS#        | Qual |
|-----|------|----------------------|-------------|------|
| 1   | 5.62 | C:\DATABASE\NIST98.L |             |      |
|     |      | Morphine             | 000057-27-2 | 99   |
|     |      | Morphine             | 000057-27-2 | 99   |
|     |      | Morphine             | 000057-27-2 | 99   |

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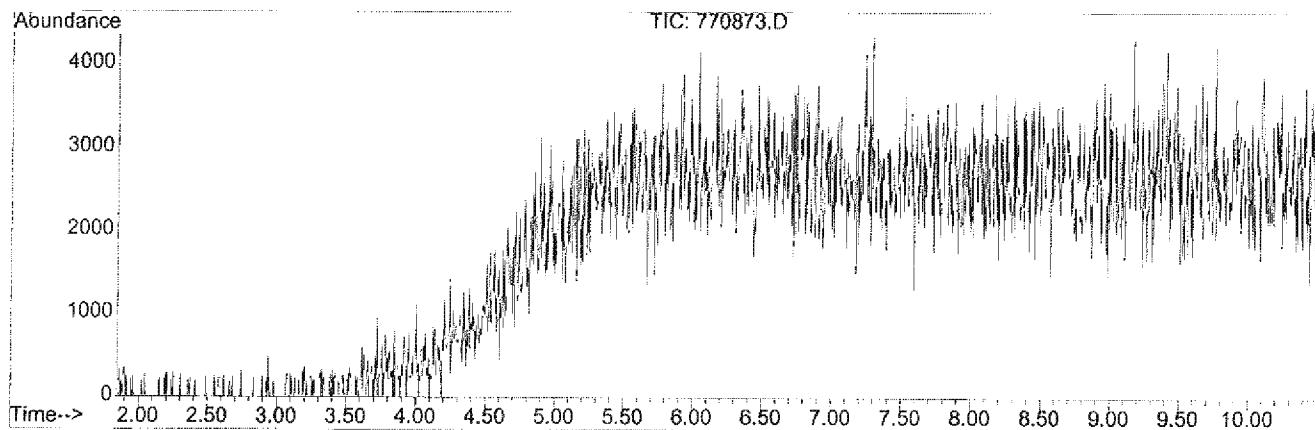
Area Percent / Library Search Report

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Information from Data File:

File Name : D:\SYSTEM4\02\_09\_11\770873.D  
Operator : SLD  
Date Acquired : 10 Feb 2011 2:38  
Sample Name : BLANK  
Submitted by :  
Vial Number : 2  
AcquisitionMeth: CLONAZ  
Integrator : RTE

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| Ret. Time | Area | Area % | Ratio % |
|-----------|------|--------|---------|
|-----------|------|--------|---------|

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\*\*\*NO INTEGRATED PEAKS\*\*\*

***Last page..... ...no further data***